General

Guideline Title

ACR Appropriateness Criteria® staging and follow-up of ovarian cancer.

Bibliographic Source(s)

Mitchell DG, Javitt MC, Glanc P, Bennett GL, Brown DL, Dubinsky T, Harisinghani MG, Harris RD, Horowitz NS, Pandharipande PV, Pannu HK, Podrasky AE, Royal HD, Shipp TD, Siegel CL, Simpson L, Wong-You-Cheong JJ, Zelop CM, Expert Panel on Women's Imaging. ACR Appropriateness CriteriaÂ® staging and follow-up of ovarian cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2012. 7 p. [67 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Javitt MC, Andreotti RF, Lee SI, DeJesus Allison SO, Bennett GL, Brown DL, Glanc P, Horowitz NS, Horrow MM, Lev-Toaff AS, Podrasky AE, Scoutt LM, Zelop CM, Expert Panel on Women's Imaging. ACR Appropriateness Criteria® staging and follow-up of ovarian cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2009. 5 p. [45 references]

Recommendations

Major Recommendations

ACR Appropriateness Criteria®

Clinical Condition: Staging and Follow-up of Ovarian Cancer

Variant 1: Pretreatment staging of ovarian cancer. (See narrative for comments regarding CA-125.)

Radiologic Procedure	Rating	Comments	RRL*
CT abdomen and pelvis with contrast	9		☢☢☢☢
MRI abdomen and pelvis without and with contrast	7	If CT with contrast cannot be performed (due to renal insufficiency or severe allergy) or if CT findings are indeterminate. See statement regarding contrast in text under "Anticipated Exceptions."	O
CT chest abdomen pelvis with contrast	7	Indicated with abnormal chest radiograph.	☢☢☢☢
CT abdomen and pelvis without contrast	6		☢☢☢☢
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			***Relative**

Radiologic Procedure	Rating	Comments	RRL*
MRI abdomen and pelvis without contrast	5		O
CT chest abdomen pelvis without contrast	4		☢☢☢☢
FDG-PET/CT skull base to mid-thigh	4		☢☢☢☢
US pelvis transvaginal	3		O
US abdomen and pelvis transabdominal and US pelvis transvaginal	3		O
CT chest abdomen pelvis without and with contrast	3		☢☢☢☢
CT abdomen and pelvis without and with contrast	3		☢☢☢☢
X-ray contrast enema	2		☢☢☢
X-ray intravenous urography	2		☢☢☢
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			***Relative Radiation Level**

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Variant 2: Rule out recurrent ovarian cancer. (See narrative for comments regarding CA-125.)

Radiologic Procedure	Rating	Comments	RRL*
CT abdomen and pelvis with contrast	9		☢☢☢☢
FDG-PET/CT skull base to mid-thigh	8		☢☢☢☢
CT chest abdomen and pelvis with contrast	7	Indicated with abnormal chest radiograph.	☢☢☢☢
MRI abdomen and pelvis without and with contrast	7	If CT with contrast cannot be performed (due to renal insufficiency or severe allergy) or if CT findings are indeterminate. See statement regarding contrast in text under "Anticipated Exceptions."	O
CT abdomen and pelvis without contrast	6		☢☢☢☢
MRI abdomen and pelvis without contrast	4		O
CT chest abdomen pelvis without contrast	4		☢☢☢☢
US pelvis transvaginal	3		O
US abdomen and pelvis transabdominal and US pelvis transvaginal	3		O
CT abdomen and pelvis without and with contrast	3		☢☢☢☢
CT chest abdomen pelvis without and with contrast	3		☢☢☢☢
X-ray contrast enema	2		☢☢☢
X-ray intravenous urography	2		☢☢☢
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			***Relative Radiation Level**

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Summary of Literature Review

Introduction/Background

Ovarian cancer is the fifth most common cause of cancer death in women in the United States behind lung, breast, colorectal, and pancreatic cancers, accounting for more than 3% of all cancers in women and causing more deaths than any other gynecologic malignancy. Most ovarian cancer typically presents late, stage III–IV, after the disease has spread widely out of the pelvis. The roles of diagnostic imaging have been to characterize the ovarian mass, determine the extent of preoperative disease, and predict tumor resectability, and evaluate response to treatment. Surgical staging is both diagnostic and therapeutic, and an experienced gynecologic surgeon is critical in optimum debulking of this tumor. However, up to 40% of patients may be understaged at laparotomy.

Overview of Imaging Modalities

Imaging is used to detect and characterize adnexal masses and to stage ovarian cancer both prior to and following initial treatment. Thus far, no imaging method has achieved a sufficiently high positive predictive value to be recommended for screening women of average risk. In patients at increased risk for ovarian carcinoma based either on their genetic profile or on serum markers, transvaginal ultrasound (US) may be used for ovarian cancer screening, although determinations of outcome-based benefits are still preliminary at best. Transvaginal US is also useful for determining the site of origin of a pelvic mass and to characterize the lesion. A combination of morphology on transvaginal US and Doppler waveform analysis may provide an accurate risk assessment for adnexal lesions. Magnetic resonance imaging (MRI) is excellent for characterizing adnexal masses that are indeterminate by US. Positron emission tomography (PET), particularly when combined with computed tomography (CT), has improved the accuracy of staging ovarian carcinoma.

The proper choice of treatment for ovarian cancer depends on accurate staging. CT and MRI have been used to determine the resectability of tumors, the candidacy of patients for effective cytoreductive surgery, the need for preoperative chemotherapy if debulking is suboptimal, and the need for referral to a gynecologic oncologist. Stage I disease is limited to one or both ovaries, stage II disease has spread to the surface of other pelvic organs, stage III indicates spread to lymph nodes or abdominal peritoneal surfaces, and stage IV is advanced disease with distant metastases to solid organs or outside the abdomen.

Cytoreductive surgery is the standard treatment for ovarian cancer. Imaging is used to define the extent of disease, assess the likelihood of optimal primary cytoreduction, and select patients who may benefit from neoadjuvant chemotherapy. The radiographic techniques for preoperative staging of ovarian cancer called for by the International Federation of Gynecology and Obstetrics, such as chest radiograph, barium enema, and excretory urography, have been replaced by more advanced cross-sectional imaging, such as CT in the United States and many other countries.

Computed Tomography

CT is the current imaging modality of choice in the preoperative evaluation of ovarian cancer and has been validated as an accurate method to predict successful surgical cytoreduction. CT has been useful for detecting local tumor involvement of the pelvic ureter and uterine serosa, as well as metastases to the peritoneum, omentum, mesentery, liver, spleen, lymph nodes, and lung parenchyma. CT has a reported accuracy for ovarian cancer staging of up to 94%. The most important limitation of CT in staging ovarian cancer is its inability to reliably detect bowel surface, mesenteric, or peritoneal tumor implants <5 mm, especially in the absence of ascites. CT is also useful for guiding biopsy of the omentum, a procedure that can increase the accuracy of preoperative staging.

CT of the chest is useful for detecting pleural and pulmonary metastases during primary staging. Although CT is not sensitive for detecting pleural metastases, these can be verified by video-assisted thoracoscopy (VATS) if needed. Preoperative detection by CT of a moderate-to-large pleural effusion helps predict poor post-treatment outcome. For postsurgical surveillance, the yield of chest CT is low if the chest radiograph shows no abnormalities, CT shows no abdominal or pelvic disease, and there is no rising serum cancer antigen (CA)-125. If PET using tracer fluorine-18-2-fluoro-2-deoxy-D-glucose (FDG-PET) and including chest, abdomen and pelvis is obtained, the added value of diagnostic-quality chest CT is probably even lower.

Magnetic Resonance Imaging

MRI is an excellent problem-solving technique by virtue of its ability to define common conditions such as fibroids, dermoid cysts, endometriomas, and other benign lesions. A multivariate analysis showed that the accuracy of MRI with gadolinium enhancement in diagnosing ovarian malignancy was 93%. Gadolinium enhancement and diffusion-weighted imaging offer improved diagnostic confidence and tissue characterization. However, the role of MRI has been limited because 1) the use of intraluminal gastrointestinal contrast agents with MRI is not as routine as it is with CT, 2) MRI generally costs more than CT, 3) there are fewer experienced radiologists to interpret MRI, and 4) patient motion is a greater problem for MRI than for CT. Thus, CT is currently the first modality recommended for staging ovarian cancer. MRI is recommended for patients with a

contraindication to the use of iodinated contrast agents (e.g., allergy, mild-to-moderate renal insufficiency), patients who are pregnant, patients of childbearing age with borderline tumors (to minimize ionizing radiation exposure), those for whom CT findings are inconclusive. Higher-field MRI scans may improve the accuracy of MRI for staging of ovarian cancer pending further investigation.

Predicting Resectability

For predicting the nonresectability of ovarian cancer, cross-sectional imaging (CT or MRI) plays a critically important role in finding significant lesions (>2 cm) at the root of the mesentery, gastrosplenic ligament, omentum of the lesser sac, porta hepatis, intersegmental fissure of the liver, diaphragm, liver dome, and lung parenchyma, and also in detecting lymphadenopathy at or above the celiac axis, presacral extraperitoneal disease, and pelvic sidewall invasion. Unresectable disease can be managed by needle or laparoscopic biopsy, by chemotherapy, and possibly by a later attempt at optimal debulking, resulting in improved survival by virtue of optimal response to chemotherapy.

Positron Emission Tomography

The use of FDG-PET imaging in the primary diagnosis and tissue characterization of ovarian cancer is unsupported to date. Specificity has been reported as low as 54% and moderate sensitivity as high as 86%. Also, false-negative results have been reported with borderline tumors, early carcinomas, and adenocarcinomas. False-positive results have been reported with dermoid cysts, hydrosalpinges, and endometriosis.

However, FDG-PET, especially when combined with CT, is a valuable tool for diagnosing and staging advanced disease and detecting recurrent tumor. The use of FDG-PET combined with serum tumor marker CA-125 has had a reported sensitivity as high as 98%, and PET alone has a sensitivity of 85%. For primary staging of ovarian carcinoma, best performances have been reported with fusion PET/CT, which has higher accuracy than either CT or FDG-PET alone.

Recurrent Disease

Imaging of the chest, abdomen, and pelvis plays a key role in detecting recurrence and the extent of disease. The latter in turn will determine the choice(s) of treatments from among surgery, chemotherapy, and radiation therapy. CT is 58% sensitive and 100% specific in predicting unsuccessful debulking. The reported accuracy of MRI for detecting lesions >2 cm is comparable to that of CT at 93% to 95%. However, CT remains the most widely used imaging method for detecting recurrence for the same reasons as those that are discussed above for primary staging. For detecting recurrent ovarian cancer, fusion PET/CT has recently shown higher accuracy than CT or PET alone, with a sensitivity of 95% to 97% and specificity of 80% to 100%. Second-look laparotomy is no longer routinely performed because the noninvasive diagnosis of recurrence obviates the need for unnecessary surgery.

CA-125 Levels

The preoperative evaluation of patients with suspected ovarian carcinoma usually includes a serum CA-125 determination. Only about 50% of all patients with stage I ovarian cancer have a true-positive result. Thus, this test alone is inadequate when used in isolation as a screening tool. This is especially true in menstruating females, since false-positive results have been reported with endometriosis, benign ovarian cysts, pregnancy, and pelvic inflammatory disease. However, with stage II or greater ovarian cancer, the true-positive rate is as high as 80%. There is a very high correlation between CA-125 levels and the clinical course of the patient during chemotherapy. Pancreatic cancer and cirrhosis have caused elevated CA-125 levels. CA-125 levels can also be used to predict tumor recurrence in patients who are clinically tumor free.

Summary

- CT of the abdomen and pelvis with contrast is the procedure of choice for staging ovarian cancer, both pretreatment and for post-treatment surveillance.
- CT of the chest is usually not appropriate in the absence of an abnormal chest radiograph, except if there is abdominal or pelvic post-treatment recurrence or rising serum CA-125.
- MRI without and with contrast may be useful following equivocal CT, but is usually not the best initial procedure for ovarian cancer staging.
- FDG-PET/CT is appropriate for detecting and defining post-treatment recurrence, but may not be needed for initial pretreatment evaluation.
- Ultrasound is useful for evaluating adnexal disease, but has limited utility for staging ovarian cancer.
- Radiographic studies such as contrast enema and urography have been replaced by CT for staging ovarian cancer.

Anticipated Exceptions

Nephrogenic systemic fibrosis (NSF) is a disorder with a scleroderma-like presentation and a spectrum of manifestations that can range from limited clinical sequelae to fatality. It appears to be related to both underlying severe renal dysfunction and the administration of gadolinium-based contrast agents. It has occurred primarily in patients on dialysis, rarely in patients with very limited glomerular filtration rate (GFR) (i.e., <30 mL/min/1.73 m^2), and almost never in other patients. There is growing literature regarding NSF. Although some controversy and lack of clarity

remain, there is a consensus that it is advisable to avoid all gadolinium-based contrast agents in dialysis-dependent patients unless the possible benefits clearly outweigh the risk, and to limit the type and amount in patients with estimated GFR rates <30 mL/min/1.73 m^2. For more information, please see the American College of Radiology (ACR) Manual on Contrast Media (see the "Availability of Companion Documents" field).

Abbreviations

- CA, cancer antigen
- CT, computed tomography
- FDG-PET, fluorine-18-2-fluoro-2-deoxy-D-glucose positron emission tomography
- MRI, magnetic resonance imaging
- US, ultrasound

Relative Radiation Level Designations

Relative Radiation Level*	Adult Effective Dose Estimate Range	Pediatric Effective Dose Estimate Range
O	0 mSv	0 mSv
☢	<0.1 mSv	<0.03 mSv
☢☢	0.1-1 mSv	0.03-0.3 mSv
☢☢☢	1-10 mSv	0.3-3 mSv
☢☢☢☢	10-30 mSv	3-10 mSv
☢☢☢☢☢	30-100 mSv	10-30 mSv
*RRL assignments for some of the examinations cannot be made, because the actual patient doses in these procedures vary as a function of a number of factors (e.g., region of the body exposed to ionizing radiation, the imaging guidance that is used). The RRLs for these examinations are designated as “Varies.”		

Clinical Algorithm(s)

Algorithms were not developed from criteria guidelines.

Scope

Disease/Condition(s)

Ovarian cancer

Guideline Category

Diagnosis

Evaluation

Clinical Specialty

Obstetrics and Gynecology

Oncology

Radiation Oncology

Radiology

Surgery

Intended Users

Health Plans

Hospitals

Managed Care Organizations

Physicians

Utilization Management

Guideline Objective(s)

To evaluate the appropriateness of radiologic procedures for staging and follow-up of patients with ovarian cancer

Target Population

Patients with ovarian cancer

Interventions and Practices Considered

1. Computed tomography (CT)
    - Abdomen and pelvis with contrast
    - Abdomen and pelvis without contrast
    - Abdomen and pelvis without and with contrast
    - Chest abdomen and pelvis with contrast
    - Chest abdomen and pelvis without contrast
    - Chest abdomen and pelvis without and with contrast
2. Magnetic resonance imaging (MRI)
    - Abdomen and pelvis without and with contrast
    - Abdomen and pelvis without contrast
3. Ultrasound (US)
    - Pelvis transvaginal
    - Abdomen and pelvis transabdominal and pelvis transvaginal
4. Fluorine-18-2-fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET) skull base to mid-thigh
5. X-ray
    - Contrast enema
    - Intravenous urography

Major Outcomes Considered

Utility of radiologic examinations in differential diagnosis

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Literature Search Procedure

The Medline literature search is based on keywords provided by the topic author. The two general classes of keywords are those related to the condition (e.g., ankle pain, fever) and those that describe the diagnostic or therapeutic intervention of interest (e.g., mammography, MRI).

The search terms and parameters are manipulated to produce the most relevant, current evidence to address the American College of Radiology Appropriateness Criteria (ACR AC) topic being reviewed or developed. Combining the clinical conditions and diagnostic modalities or therapeutic procedures narrows the search to be relevant to the topic. Exploding the term "diagnostic imaging" captures relevant results for diagnostic topics.

The following criteria/limits are used in the searches.

1. Articles that have abstracts available and are concerned with humans.
2. Restrict the search to the year prior to the last topic update or in some cases the author of the topic may specify which year range to use in the search. For new topics, the year range is restricted to the last 5 years unless the topic author provides other instructions.
3. May restrict the search to Adults only or Pediatrics only.
4. Articles consisting of only summaries or case reports are often excluded from final results.

The search strategy may be revised to improve the output as needed.

Number of Source Documents

The total number of source documents identified as the result of the literature search is not known.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Strength of Evidence Key

Category 1 - The conclusions of the study are valid and strongly supported by study design, analysis, and results.

Category 2 - The conclusions of the study are likely valid, but study design does not permit certainty.

Category 3 - The conclusions of the study may be valid, but the evidence supporting the conclusions is inconclusive or equivocal.

Category 4 - The conclusions of the study may not be valid because the evidence may not be reliable given the study design or analysis.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The topic author drafts or revises the narrative text summarizing the evidence found in the literature. American College of Radiology (ACR) staff draft an evidence table based on the analysis of the selected literature. These tables rate the strength of the evidence for all articles included in the narrative text.

The expert panel reviews the narrative text, evidence table, and the supporting literature for each of the topic-variant combinations and assigns an appropriateness rating for each procedure listed in the table. Each individual panel member forms his/her own opinion based on his/her

interpretation of the available evidence.

More information about the evidence table development process can be found in the ACR Appropriateness Criteria® Evidence Table Development document (see the "Availability of Companion Documents" field).

Methods Used to Formulate the Recommendations

Expert Consensus (Delphi)

Description of Methods Used to Formulate the Recommendations

Modified Delphi Technique

The appropriateness ratings for each of the procedures included in the Appropriateness Criteria topics are determined using a modified Delphi methodology. A series of surveys are conducted to elicit each panelist's expert interpretation of the evidence, based on the available data, regarding the appropriateness of an imaging or therapeutic procedure for a specific clinical scenario. American College of Radiology (ACR) staff distributes surveys to the panelists along with the evidence table and narrative. Each panelist interprets the available evidence and rates each procedure. The surveys are completed by panelists without consulting other panelists. The ratings are a scale between 1 and 9, which is further divided into three categories: 1, 2, or 3 is defined as "usually not appropriate"; 4, 5, or 6 is defined as "may be appropriate"; and 7, 8, or 9 is defined as "usually appropriate." Each panel member assigns one rating for each procedure per survey round. The surveys are collected and the results are tabulated, de-identified and redistributed after each round. A maximum of three rounds are conducted. The modified Delphi technique enables each panelist to express individual interpretations of the evidence and his or her expert opinion without excessive bias from fellow panelists in a simple, standardized and economical process.

Consensus among the panel members must be achieved to determine the final rating for each procedure. Consensus is defined as eighty percent (80%) agreement within a rating category. The final rating is determined by the median of all the ratings once consensus has been reached. Up to three rating rounds are conducted to achieve consensus.

If consensus is not reached, the panel is convened by conference call. The strengths and weaknesses of each imaging procedure that has not reached consensus are discussed and a final rating is proposed. If the panelists on the call agree, the rating is accepted as the panel's consensus. The document is circulated to all the panelists to make the final determination. If consensus cannot be reached on the call or when the document is circulated, "No consensus" appears in the rating column and the reasons for this decision are added to the comment sections.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The recommendations are based on analysis of the current literature and expert panel consensus.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Selection of appropriate radiologic imaging procedures for staging and follow-up of patients with ovarian cancer

Potential Harms

- The most important limitation of computed tomography (CT) in staging ovarian cancer is its inability to reliably detect bowel surface, mesenteric, or peritoneal tumor implants <5 mm, especially in the absence of ascites.
- The use of fluorine-18-2-fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET) imaging in the primary diagnosis and tissue characterization of ovarian cancer is unsupported to date. Specificity has been reported as low as 54% and moderate sensitivity as high as 86%. Also, false-negative results have been reported with borderline tumors, early carcinomas, and adenocarcinomas. False-positive results have been reported with dermoid cysts, hydrosalpinges, and endometriosis.
- Serum cancer antigen (CA)-125 determination test alone is inadequate when used in isolation as a screening tool. This is especially true in menstruating females, since false-positive results have been reported with endometriosis, benign ovarian cysts, pregnancy, and pelvic inflammatory disease.

Gadolinium-based Contrast Agents

Nephrogenic systemic fibrosis (NSF) is a disorder with a scleroderma-like presentation and a spectrum of manifestations that can range from limited clinical sequelae to fatality. It appears to be related to both underlying severe renal dysfunction and the administration of gadolinium-based contrast agents. It has occurred primarily in patients on dialysis, rarely in patients with very limited glomerular filtration rate (GFR) (i.e., <30 mL/min/1.73 m^2), and almost never in other patients. Although some controversy and lack of clarity remain, there is a consensus that it is advisable to avoid all gadolinium-based contrast agents in dialysis-dependent patients unless the possible benefits clearly outweigh the risk, and to limit the type and amount in patients with estimated GFR rates <30 mL/min/1.73 m^2. For more information, please see the American College of Radiology (ACR) Manual on Contrast Media (see the "Availability of Companion Documents" field).

Relative Radiation Level (RRL)

Potential adverse health effects associated with radiation exposure are an important factor to consider when selecting the appropriate imaging procedure. Because there is a wide range of radiation exposures associated with different diagnostic procedures, an RRL indication has been included for each imaging examination. The RRLs are based on effective dose, which is a radiation dose quantity that is used to estimate population total radiation risk associated with an imaging procedure. Patients in the pediatric age group are at inherently higher risk from exposure, both because of organ sensitivity and longer life expectancy (relevant to the long latency that appears to accompany radiation exposure). For these reasons, the RRL dose estimate ranges for pediatric examinations are lower as compared to those specified for adults. Additional information regarding radiation dose assessment for imaging examinations can be found in the ACR Appropriateness Criteria® Radiation Dose Assessment Introduction document (see the "Availability of Companion Documents" field).

Contraindications

Contraindications

Magnetic resonance imaging (MRI) is recommended for patients with a contraindication to the use of iodinated contrast agents (allergy, mild-to-moderate renal insufficiency), patients who are pregnant, patients of childbearing age with borderline tumors (to minimize ionizing radiation exposure), and those for whom computed tomography (CT) findings are inconclusive.

Qualifying Statements

Qualifying Statements

The American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those examinations generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Mitchell DG, Javitt MC, Glanc P, Bennett GL, Brown DL, Dubinsky T, Harisinghani MG, Harris RD, Horowitz NS, Pandharipande PV, Pannu HK, Podrasky AE, Royal HD, Shipp TD, Siegel CL, Simpson L, Wong-You-Cheong JJ, Zelop CM, Expert Panel on Women's Imaging. ACR Appropriateness CriteriaÂ® staging and follow-up of ovarian cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2012. 7 p. [67 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

1996 (revised 2012)

Guideline Developer(s)

American College of Radiology - Medical Specialty Society

Source(s) of Funding

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria®.

Guideline Committee

Committee on Appropriateness Criteria, Expert Panel on Women's Imaging

Composition of Group That Authored the Guideline

Panel Members: Donald G. Mitchell, MD (*Principal Author*); Marcia C. Javitt, MD (*Panel Chair*); Phyllis Glanc, MD (*Panel Vice-Chair*); Genevieve L. Bennett, MD; Douglas L. Brown, MD; Theodore Dubinsky, MD; Mukesh G. Harisinghani, MD; Robert D. Harris, MD, MPH; Neil S. Horowitz, MD; Pari V. Pandharipande, MD, MPH; Harpreet K. Pannu, MD; Ann E. Podrasky, MD; Henry D. Royal, MD; Thomas D. Shipp, MD; Cary Lynn Siegel, MD; Lynn Simpson, MD; Jade J. Wong-You-Cheong, MD; Carolyn M. Zelop, MD

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Javitt MC, Andreotti RF, Lee SI, DeJesus Allison SO, Bennett GL, Brown DL, Glanc P, Horowitz NS, Horrow MM, Lev-Toaff AS, Podrasky AE, Scoutt LM, Zelop CM, Expert Panel on Women's Imaging. ACR Appropriateness Criteria® staging and follow-up of ovarian cancer. [online publication]. Reston (VA): American College of Radiology (ACR); 2009. 5 p. [45 references]

Guideline Availability

Electronic copies: Available from the American College of Radiology (ACR) Web site.

Print copies: Available from the American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

Availability of Companion Documents

The following are available:

- ACR Appropriateness Criteria®. Overview. Reston (VA): American College of Radiology; 2 p. Electronic copies: Available in Portable Document Format (PDF) from the American College of Radiology (ACR) Web site.
- ACR Appropriateness Criteria®. Literature search process. Reston (VA): American College of Radiology; 1 p. Electronic copies: Available in Portable Document Format (PDF) from the ACR Web site.
- ACR Appropriateness Criteria®. Evidence table development – diagnostic studies. Reston (VA): American College of Radiology; 2013

Nov. 3 p. Electronic copies: Available in PDF from the ACR Web site .

- ACR Appropriateness Criteria®. Radiation dose assessment introduction. Reston (VA): American College of Radiology; 2 p. Electronic copies: Available in Portable Document Format (PDF) from the ACR Web site .
- ACR Appropriateness Criteria® Manual on contrast media. Reston (VA): American College of Radiology; 90 p. Electronic copies: Available in PDF from the ACR Web site .
- ACR Appropriateness Criteria®. Procedure information. Reston (VA): American College of Radiology; 1 p. Electronic copies: Available in PDF from the ACR Web site .
- ACR Appropriateness Criteria® staging and follow-up ovarian cancer. Evidence table. Reston (VA): American College of Radiology; 27 p. Electronic copies: Available in PDF from the ACR Web site .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI on April 3, 2006. This summary was updated by ECRI Institute on May 17, 2007 following the U.S. Food and Drug Administration (FDA) advisory on Gadolinium-based contrast agents. This summary was updated by ECRI Institute on June 20, 2007 following the U.S. Food and Drug Administration (FDA) advisory on gadolinium-based contrast agents. This NGC summary was updated by ECRI Institute on December 14, 2007. This NGC summary was updated by ECRI Institute on June 16, 2010. This summary was updated by ECRI Institute on January 13, 2011 following the U.S. Food and Drug Administration (FDA) advisory on gadolinium-based contrast agents. This NGC summary was updated by ECRI Institute on November 8, 2012.

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